DIGITAL TRANSFORMATION AND POLICY IMPLICATIONS

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Shaping the digital future in finance - together

Digitisation is driving fundamental structural changes in the financial system. Banks, investors and other market participants are relying more and more on digital processes. At the same time, new applications, innovative products and entire new asset classes emerge. Consumers increasingly carry out their day-to-day financial transactions with a few clicks on mobile devices.

If used well, this digital shift presents opportunities: It enables the EU to harness innovation as it sustains the recovery and builds a more competitive, inclusive and sustainable economy. Digitisation can also help citizens to make full use of efficient and accessible products and provide new sources of funding for SMEs – in short, it can help us build a modern and resilient Europe post the Covid 19-pandemic.

However, the digital transformation is also creating new risks. The Commission's Digital Finance Strategy, presented in September 2020, aims to make sure that we seize the opportunities created by digitisation while preserving market stability and integrity and protecting consumers and investors.

This involves ambitious legislation, such as our proposal to create a framework for markets in crypto assets. Once adopted, the new rules will safeguard financial stability, bring legal clarity and support innovation, while providing solid rules ensuring consumer and investment protection and preventing abuse, fraud and theft. Member States and the EP have made good progress in their negotiations. The Commission would welcome a swift adoption of this file in the autumn, given the rapid growth of the crypto asset markets.

Only by embracing change can we build inclusive and prosperous societies.

Closely linked to this proposal is a pilot project for market infrastructures based on distributed ledger technology. We are pleased that Member States have found a common approach on this file and hope to conclude negotiations with the European Parliament soon. This would mean that as early as in 2022, market players will be able to test the use of distributed ledger technology on a large scale, in asset classes such as shares or bonds. This is a great opportunity to boost the development of our capital markets, giving smaller firms in particular a chance to attract new business.

A number of cyber attacks over the past months have made painfully clear how vulnerable our economy is to these kinds of threats. The financial sector is no exception. That is why the Commission has proposed rules on digital operational resilience for financial firms. We want all of them to have the necessary safeguards in place to mitigate cyber attacks and other risks to their digital resilience. The scale of the threat shows that we have no time to lose. We are therefore working actively with the European Parliament and Member States to ensure a swift agreement on the new rules.

This is not all.

The digital euro, a digital form of central bank money, would offer greater choice to consumers and businesses, and further support the digitisation of the EU economy. The Commission will continue to work closely with the European Central Bank and other EU institutions to analyse the legal and political implications of introducing a digital euro and to test various design options. We note that this is a global issue and that other jurisdictions are reflecting along similar lines.

We are also working on a common European Financial Data Space to further promote data-driven innovation in finance. The European Single Access Point will be a first important stepping stone towards this goal. We want the EU to have an Open Finance framework in place by 2024. This is in line with the EU Data Strategy, the upcoming Data Act, and the Digital Services Act. Sharing data linked to financial products can bring great benefits to consumers and businesses, such asmore effective and personalised products and services. We intend to propose a balanced framework so as to ensure fair competition and full control for individuals over their data.

We want Europe to be a leader in digital finance. But we need to embrace the digital changes in an inclusive way, to ensure that no parts of society are left behind. To achieve this, we need an inclusive approach, including consumers, businesses, policymakers, regulators and supervisors at European and national level, as well as the financial sector - from incumbent players to start-ups. Let us continue to shape this new world together.

TSVETELINA PENKOVA

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Transforming the financial sector - a new digital reality

The digital transformation is a fact for few decades now and is our core priority in all policy areas. Customers want faster and more convenient services while innovative companies provide adapted and timely solutions for their needs. The COVID pandemic has caused an increase in the use of financial applications in Europe by 72% in only a week.

Financial companies invest massively in their digital transformation, which on one hand is changing their business models and on the other is bringing a completely new spectrum of processes and services. The use of cloud services and big data, AI, DLT and the internet of things have become viral for the way traditional financial actors adapt to the new reality, as well as for new comers that through combination of different technologies are disrupting the established market.

Outsourcing or developing private cloud infrastructures has proven to be highly beneficial for financial companies. It brings considerable cost reduction with regards to data storage and processing while maintaining an increased level of securty. AI and big data allow for virtual monitoring of transactions and customer behaviour, assembling information for regulatory and compliance purposes or for providing tailor made products.

Blockchain technology, which is often associated with cryptocurrencies, goes way beyond in its fields of application in finance. KYC solutions or real-time payment processing and verification of transactions are a few of them.

Finally, none of these would be possible without increased connectivity. The deployment of 5G and 6G is pivotal in this fast-paced transformation. There are two elements that are essential for the digital transformation - digital identities and cybersecurity.

The Electronic Identification, Authentication and Trust Services (eIDAS) Regulation provides the foundation for cross-border electronic identification and authentication. About 60% of Europeans benefit from the current system, however, usage is still low and the application in the private sector is limited. Our aim is to make the national electronic identification schemes interoperable among the Member States and thus to reduce divergences between countries.

Two elements are essential for the digital transformation - digital identities and cybersecurity.

A new proposal for a Regulation on digital identity was released by the European Commission - it builds upon eIDAS and extends the scope also to the private sector. Member States would offer citizens and businesses digital wallets that will allow them to use the benefits of their national digital identities. They would be able to access services online directly without their sharing personal data and would have full control of the data they share.

Technology companies are getting more and more active in finance, both as service providers, as well as providers of financial services themselves. In the European Parliament, we are working on a 'Digital Operational Resilience Act' (DORA) - a sector-specific legislation aiming to ensure that all actors in the financial system put in place the necessary measures to mitigate cyber-attacks and ICT-related risks. Moreover, the proposal introduces an oversight framework for ICT providers, such as cloud computing service providers.

We are also currently working on updating the European Network and Information Security Directive - NIS2. The Commission proposal extends the scope of this NIS Directive by adding new sectors based on their criticality to the economy and society and by introducing a clear size limit - this means that all medium and large companies in selected sectors will be included in the scope. At the same time, Member States leave some flexibility to identify smaller entities with a high security risk profile.

In the end, in July 2021 The European Central Bank (ECB) already launched the 24 months investigation phase of the digital euro project. And the ECB is not alone. Central banks around the world are running virtual versions of their currencies, as the use of physical money is declining more and more. Financial authorities are determined to enter the digital world of the 21st century, following the development of the private forms of cryptocurrencies, such as Libra.

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Digitization of financial activities: European cooperation is much needed

In recent years, the financial sector has experienced tremendous transformation, propelled by development in technology. This trend is expected to pick pace in the coming years. The Covid-19 crisis has certainly accelerated this process and underlined the importance of adaptability.

As technologies and business models evolve, consumers and businesses in Europe are increasingly using digital financial services for a range of different purposes. Europe is now home to many thriving financial technology startups. Many European traditional financial companies are in the process of overhauling their own models, through massive investment.

By accelerating cross-border transactions, digital finance also has the potential to enhance financial market integration in the European Union. More broadly, a stronger digital financial sector could support the economic recovery strategy.

Therefore, financial technologies represent a great opportunity for Europe. Disruptive innovations such as blockchain, cloud, quantum computing and artificial intelligence are creating new horizons in terms of efficiency for the financial system as a whole. They are driving the development of new business models for companies and more inclusive services for consumers. Exploiting the opportunities brought by these transformative forces is undeniably a challenge for the public authorities, both at national and European level.

One of the main challenges is to build a responsive financial system adapted to the rapid progress of technologies and to the rapid development of their use cases. Over the last decade, these innovations have contributed to reshape the European financial landscape. New players, whose business model is based on new data uses and innovative methods of delivering financial services, have emerged. Fintechs of course, but also the rise of financial services within "big tech". The traditional players have therefore had to reinvent themselves considerably to adapt to this changing environment. This movement has accelerated in recent years, as illustrated by the number of partnerships between traditional players and fintechs, as well as by the number of significant fund-raising deals by fintechs and the increased amount of investment by traditional players in technologies.

The European Union must continue to promote financial innovation.

Beyond the final users, society as a whole has to gain from the development of financial technologies, as they can ultimately lead to a more efficient allocation of capital and better risk management. To achieve this requires from public authorities to adopt a balanced approach that supports innovation while promoting fair competition, protecting consumers and preserving the integrity of financial markets.

While each jurisdiction is perfectly legitimate to develop the responses it deems appropriate, the rise of financial technologies necessarily calls for a global European or international framework since they may raise issues that are transnational in nature, such as cybersecurity or financial stability.

The European Commission has therefore adopted a package on digital finance, including strategies on digital finance and retail payments. It has laid down legislative proposals on crypto-assets (MICA) and digital resilience (DORA). One of the remaining challenges during the next months will be to set up appropriate European supervisory regimes, for both MICA and DORA. Two imperatives have there to be taken into account: credibility, with regards to the size of some corporates going under oversight and the sophistication of some business models; and efficiency, with regards to the respective existing competences of the three European supervisory authorities.

The European Union must continue to promote financial innovation and contribute to creating a safe and favorable environment in which ambitious entrepreneurs with promising projects can flourish. This is up to public authorities to offer such a framework, to the benefit of European citizens and businesses.

BERND LEUKERT

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#EngineerTheFuture of Financial Services

Almost two years of a global pandemic have shown the fragility of cross-border value chains. At the same time international cooperation and technological innovation have proven essential to find an effective response to its challenges: for medical research, remote interaction, granting financial support or effective treatment of Covid-19 patients.

What does this mean for the financial sector? The pandemic has accelerated our digital strategy and that of many of our clients. We are seeing business models being permanently shaped – for example, the demand for asset-as-a-service (AaaS). AaaS allows firms to pay according to the actual use of their production equipment and has become relevant during lockdowns, when companies suffered from having their equipment sitting idle while they were still paying for it. Beyond the pandemic, it can also improve cashflow management, reduce balance sheet size and capital outlays, provide natural insurance against a cyclical business cycle, and avoid incurring depreciation expense.

Also, clients are becoming more interested in digital authentication. Remote identification has been a key enabler for simple, efficient and secure access to financial and other services. All these changes depend on reliable and standardized data.

The political response to those developments has been twofold: we see active support for the development and adoption of innovative solutions, such as digital identities or cloud services.

On the other hand, political and regulatory focus is rightfully on ensuring resilience and autonomy – as in the current debate on Digital Sovereignty. The most prominent development in this regard is the increasing scrutiny on IT providers from outside the EU.

For us as Deutsche Bank, resilience and security are the foundation of our operations, which is why we are following these developments with great interest. At the same time, we're exploring the opportunities offered by modern cloud-based technology to innovate for the benefit of our clients. And we are moving to an engineering-led culture with the ambition to have more than half of our technologists as hands-on practicing engineers by the end of 2022 as a major part of our partnership with Google.

Partnerships are the key to successful transformation.

It is essential to find the right balance between those goals. Digital sovereignty cannot mean erecting barriers to international cooperation or having to build EU-only infrastructures from scratch.

In contrast, digital sovereignty can only be achieved if the industry is empowered to choose the technologies we use, how we use them and who we partner with. As an example, transitioning to the cloud is an important step to increase the stability, security and flexibility of banks' IT systems, while reducing complexity and eliminating the need to operate own physical data centres.

But how can we create a framework that allows innovation to thrive?

- **Enable partnership** via a consistent, innovation-friendly regulatory framework supporting innovation made in Europe as well as collaboration with established players from inside and outside the EU - including clear allocation of accountabilities across the whole value chain. This will increase access to funding, enabling European businesses to compete and grow - both across the EU and globally.
- **Create a single European rulebook,** which is principles-based and focused on the outcome of resilience, rather than specific measures, to allow for flexibility and future-proof regulation. Remove regulatory and supervisory fragmentation in the EU, which increases cost and often creates legal uncertainty.
- **Enable safe and secure data management** to enable companies for the of use data to drive better insights and decision-making. This requires a holistic approach – moving away from sector-specific data siloes towards a real data economy – with a clear focus on empowering the user to take control and actively decide who he wants to share data with and for what purpose.

To be successful, public and private sector must work together to realise the benefits of innovation and deliver solutions that respond to the needs of economy and society. Ongoing initiatives on digital identities, cloud and virtual currencies are encouraging examples of policymakers getting actively involved in developing practical solutions to shape the future of the European economy.

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Done right, Open Finance can transform Europe's economic fortunes

Even in an era accustomed to the emergence of 'new normals', the transformative potential of Open Finance is highly significant.

By providing consumers with more control over a wider range of their financial data – including on savings, insurance, mortgages, investments, pensions and consumer credit – Open Finance has the potential to significantly improve the financial planning and investment opportunities of the 'under-served' and 'under-invested'.

Put simply, Open Finance represents one of the biggest shake-ups in the history of personal finance.

And the EU cannot afford to get it wrong. With household saving rates in the euro area hitting historic highs over the last year[1], and investment rates languishing at 2011 levels[2], EU citizens have accumulated an additional €540 billion[3] in excess cash savings over the course of the pandemic.

With the EU's post-Covid economic recovery plan still to be funded, there has never been a more important time for policymakers to encourage private citizens to invest in public markets.

Open Finance can contribute towards this objective by making investing easier, safer, cheaper and more efficient for EU citizens.

For example, consumers could benefit from improved access to and switching between an extensive choice of fund platforms, pension plans, investment portfolios, and tax wrappers, as well as sources of expert advice, all via a smart device and facilitated by an authenticated digital identification.

Implemented effectively, Open Finance will boost consumer participation in public markets to the benefit of European citizens and the economy as a whole.

Lessons learned from Open Banking

The development of the Open Banking ecosystem has shown that, where consumers see a genuinely additive open architecture solution, they will use it.

> **Open Finance represents one of the biggest shake-ups in the history of personal finance.**

For example, according to the Open Banking Implementation Entity (OBIE) [4], more than 4 million Open Banking payments were made in the UK in 2020 – up c1,150% from 2018. And banks' servers received almost 6 billion 'calls' from FinTech application programming interfaces (APIs) last year – up c8,620% from 2017.

This shows that where 'openness' can work to the benefit of consumers, there will be uptake – at least in so far as consumers are able to embrace it. Lessons should be learned in this regard from previous experience in opening up access to consumer data in the banking space.

For example, complexities around the standardisation of APIs, as well as differing interpretations of the framework governing Open Banking between domestic regulators, continue to represent a challenge to industry and, ultimately, consumers in realising the full potential of open architecture solutions.

In seeking to extend Open Banking principles to a broader range of financial products and services through Open Finance, policymakers must resolve to overcome such issues.

The way ahead

Open architecture solutions in financial services represent a 'new normal' for consumers in Europe; a new normal that has already delivered tangible benefits in the banking sector.

However, as the EU faces up to the challenge of funding the post-Covid economic recovery, policymakers must not lose sight of the potential of Open Finance in transforming Europe's economic fortunes.

Open Finance can help to liberate billions of euros stockpiled in privately held uninvested cash and put this money to work in public markets to the benefit of European citizens and the economy as a whole.

It can do so by making investing easier, safer, cheaper and more efficient for consumers.

Therefore, as it prepares to legislate for an Open Finance framework, the European Commission must work closely with industry to develop an ecosystem that genuinely delivers additional benefits to citizens by providing the tools to help them truly understand their financial affairs, and to plan and invest for their future.

Done right, Open Finance can help to bridge Europe's growing investment gap and, in doing so, contribute towards securing the EU's post-Covid recovery and economic future.

[1] Eurostat, EuroIndicators, July 2021
[2] Eurostat, EuroIndicators, July 2021
[3] European Central Bank, Eurosystem staff macroeconomic projections for the euro area, June 2021
[4] OBIE, Three years since PSD2 market the start of Open Banking, the UK has built a world-leading ecosystem, January 2021

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User-centred central bank digital currencies

As is often the case with disruptive innovations, digital assets are being forged in times of crisis. Bitcoin was born in the depths of the 2008 financial crisis. In the future, the COVID-19 pandemic will be seen as the crisis that lent digital assets momentum and pushed them closer to the mainstream.

As of mid-August, crypto currencies, a subset of digital assets, were valued at an estimated $1.8 trillion. This is about ten times more than at the beginning of 2020, at the onset of the pandemic, and still nearly 25% below the highs seen in May. During this period, EU and US policymakers have initiated the process of regulating and overseeing crypto currency activity. Meanwhile, the European Central Bank has rolled out a plan to develop their own digital asset - a central bank digital currency (CBDC) - the digital euro.

The question we now face is no longer whether digital assets, crypto currencies and/or CBDC will become a meaningful part of the financial services infrastructure. Instead, it's now where, and how, they will shape and be integrated into financial systems.

Invented 13 years ago, the technology underlying Bitcoin has proved even more popular than Bitcoin itself. Distributed ledger technology, such as blockchain, has been used to create many competing digital coins - there are estimated to be over 6,000 today - and is now being applied to fiat currencies in multiple ways.

The digital asset landscape is diverse, comprising not only coins like Bitcoin, but also coins that are pegged to a fiat currency or the value of other financial assets (stablecoins), and CBDC. Each category is different, confers different rights on holders and needs to be considered separately, with distinct infrastructure and compliance frameworks.

Stablecoins were in fact designed as a response to the volatile nature of Bitcoin-like "currencies". To date though, much ambiguity remains on the "stability" of stablecoins and the appropriate regulatory and compliance frameworks to apply to them. Further, some stablecoins contain characteristics that are like regulated financial instruments such as derivatives or securities. Central banks have also started reflecting on the pros and cons of CBDCs in a bid to capture the benefits of digital assets, stay abreast of changes in payment methods and in reaction to private market initiatives like Facebook's plan to launch a stablecoin.

A wide-ranging discussion on the future of money is in all of our interests as we contemplate the future of the financial system.

CBDCs and distributed ledger technology have much to commend them, though. They could aid financial inclusion by providing excluded groups with access to digital financial products and could make payment systems faster, cheaper and, ultimately, more efficient. The realisation of their potential will only be unlocked when remaining questions surrounding the fundamental design and use are resolved.

As the ECB embarks on its investigative phase for the digital euro, it will have to refine its view on the type of infrastructure and features to be used, for example token or account-based, or a hybrid system, the level of access from wholesale to general use, and the constraints to be imposed so as to prevent illicit activities, reduce the risk of bank runs and protect the mechanism of allocation of credit in the economy.

The choices to be made are more than just technical. Going forward, the debate must include focus on user needs. Choices will have to be dictated by what users - consumers, merchants and entrepreneurs - actually want from the digital payments era. Once the user interface, user experience and user value proposition is right, the other pieces will fall more easily into place.

Three key questions should therefore be addressed:

The first revolves around infrastructure. Do users want a system operated by the Government, the private sector or a hybrid?

The second concerns the interface. Do users want to deal directly with the central bank or through intermediaries, or both, and, should those intermediaries be banks, fintechs, social media, hardware companies or all of the above? The answers to these questions have profound implications, for example for the role of the commercial banking system, the source and amount of available bank capital and the supply of credit to the economy.

Third, to what extent do users want a CBDC to work like cash? There are some trade-offs to consider here. Cash transactions have the advantage of being mostly private, but retaining privacy would limit transparency. A cash-like digital currency would probably mean lower fees, but, at the same time, a lower level of protection, with users exposed to hacks and theft of their wallets.

A wide-ranging discussion on the future of money is in all of our interests as we contemplate the future of the financial system. The way forward is to listen to consumers and companies, finding out what they want in the digital age and responding accordingly. After all, digital assets including crypto currencies and CBDCs can only deliver on their potential if their use is managed and the ecosystem in which they operate is regulated appropriately.